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 1: [NM_007038](#). Homo sapiens a di...[gi:5901887]

LOCUS NM_007038 5533 bp mRNA linear PRI 20-DEC-2003
DEFINITION Homo sapiens a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2) (ADAMTS5), mRNA.
ACCESSION NM_007038
VERSION NM_007038.1 GI:5901887
KEYWORDS
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 5533)
AUTHORS Tortorella, M.D., Liu, R.Q., Burn, T., Newton, R.C. and Arner, E.
TITLE Characterization of human aggrecanase 2 (ADAM-TS5): substrate specificity studies and comparison with aggrecanase 1 (ADAM-TS4)
JOURNAL Matrix Biol. 21 (6), 499-511 (2002)
PUBMED [12392761](#)
REMARK GeneRIF: Substrate specificity. Cleaves aggrecan at Glu(1480)-Gly(1481), Glu(1667)-Gly(1668), Glu(1771)-Ala(1772) and Glu(1871)-Leu(1872) bonds more readily than at the Glu(373)-Ala(374) bond. Additionally, in region spanning residues Gly(1481) and Glu(1667).
REFERENCE 2 (bases 1 to 5533)
AUTHORS Malfait, A.M., Liu, R.Q., Ijiri, K., Komiya, S. and Tortorella, M.D.
TITLE Inhibition of ADAM-TS4 and ADAM-TS5 prevents aggrecan degradation in osteoarthritic cartilage
JOURNAL J. Biol. Chem. 277 (25), 22201-22208 (2002)
PUBMED [11956193](#)
REMARK GeneRIF: Inhibition of ADAM-TS4 and ADAM-TS5 prevents aggrecan degradation in osteoarthritic cartilage.
REFERENCE 3 (bases 1 to 5533)
AUTHORS Yamanishi, Y., Boyle, D.L., Clark, M., Maki, R.A., Tortorella, M.D., Arner, E.C. and Firestein, G.S.
TITLE Expression and regulation of aggrecanase in arthritis: the role of TGF-beta
JOURNAL J. Immunol. 168 (3), 1405-1412 (2002)
PUBMED [11801682](#)
REMARK GeneRIF: Aggrecanase-2 mRNA and protein are constitutively produced by fibroblast-like synoviocytes from nonarthritis, osteoarthritis, and rheumatoid arthritis patients but are not increased by TGF-beta, IL-1, or TNF-alpha.
REFERENCE 4 (bases 1 to 5533)
AUTHORS Hirohata, S.
TITLE ADAMTS family--new extracellular matrix degrading enzyme
JOURNAL Seikagaku 73 (11), 1333-1337 (2001)
PUBMED [11831030](#)
REMARK GeneRIF: extracellular matrix degrading enzyme
REFERENCE 5 (bases 1 to 5533)

AUTHORS Hurskainen,T.L., Hirohata,S., Seldin,M.F. and Apte,S.S.
 TITLE ADAM-TS5, ADAM-TS6, and ADAM-TS7, novel members of a new family of zinc metalloproteases. General features and genomic distribution of the ADAM-TS family
 JOURNAL J. Biol. Chem. 274 (36), 25555-25563 (1999)
 PUBMED [10464288](#)
 REFERENCE 6 (bases 1 to 5533)
 AUTHORS Abbaszade,I., Liu,R.Q., Yang,F., Rosenfeld,S.A., Ross,O.H., Link,J.R., Ellis,D.M., Tortorella,M.D., Pratta,M.A., Hollis,J.M., Wynn,R., Duke,J.L., George,H.J., Hillman,M.C. Jr., Murphy,K., Wiswall,B.H., Copeland,R.A., Decicco,C.P., Bruckner,R., Nagase,H., Itoh,Y., Newton,R.C., Magolda,R.L., Trzaskos,J.M., Burn,T.C. et al.
 TITLE Cloning and characterization of ADAMTS11, an aggrecanase from the ADAMTS family
 JOURNAL J. Biol. Chem. 274 (33), 23443-23450 (1999)
 PUBMED [10438522](#)
 COMMENT REVIEWED REFSEQ: This record has been curated by NCBI staff. The reference sequence was derived from [AF142099.1](#).

Summary: This gene encodes a disintegrin and metalloproteinase with thrombospondin motifs-5 (ADAMTS5), which is a member of the ADAMTS protein family. Members of the family share several distinct protein modules, including a propeptide region, a metalloproteinase domain, a disintegrin-like domain, and a thrombospondin type 1 (TS) motif. Individual members of this family differ in the number of C-terminal TS motifs, and some have unique C-terminal domains. The enzyme encoded by this gene contains 2 C-terminal TS motifs and functions as aggrecanase to cleave aggrecan, a major proteoglycan of cartilage. This gene is composed of 8 exons.

COMPLETENESS: full length.

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